

<110> Merck & Co., Inc.  
Clark, Janet

<120> METHOD FOR IDENTIFYING COMPOUNDS THAT  
AFFECT EXPRESSION OF TRYPTOPHAN HYDROXYLASE ISOFORM 2

<130> 21487Y

<150> 60/514268

<151> 2003-10-24

<160> 12

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 447

<212> PRT

<213> Mus musculus

<400> 1

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Met Ile Glu Asp Asn Lys Glu Asn Lys Glu Asn Lys Asp His Ser Ser
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Glu Arg Gly Arg Val Thr Leu Ile Phe Ser Leu Glu Asn Glu Val Gly
          20           25           30
Gly Leu Ile Lys Val Leu Lys Ile Phe Gln Glu Asn His Val Ser Leu
          35           40           45
Leu His Ile Glu Ser Arg Lys Ser Lys Gln Arg Asn Ser Glu Phe Glu
          50           55           60
Ile Phe Val Asp Cys Asp Ile Ser Arg Glu Gln Leu Asn Asp Ile Phe
65           70           75           80
Pro Leu Leu Lys Ser His Ala Thr Val Leu Ser Val Asp Ser Pro Asp
          85           90           95
Gln Leu Thr Ala Lys Glu Asp Val Met Glu Thr Val Pro Trp Phe Pro
          100          105          110
Lys Lys Ile Ser Asp Leu Asp Phe Cys Ala Asn Arg Val Leu Leu Tyr
          115          120          125
Gly Ser Glu Leu Asp Ala Asp His Pro Gly Phe Lys Asp Asn Val Tyr
          130          135          140
Arg Arg Arg Arg Lys Tyr Phe Ala Glu Leu Ala Met Asn Tyr Lys His
145          150          155          160
Gly Asp Pro Ile Pro Lys Ile Glu Phe Thr Glu Glu Glu Ile Lys Thr
          165          170          175
Trp Gly Thr Ile Phe Arg Glu Leu Asn Lys Leu Tyr Pro Thr His Ala
          180          185          190
Cys Arg Glu Tyr Leu Arg Asn Leu Pro Leu Leu Ser Lys Tyr Cys Gly
          195          200          205
Tyr Arg Glu Asp Asn Ile Pro Gln Leu Glu Asp Val Ser Asn Phe Leu
          210          215          220
Lys Glu Arg Thr Gly Phe Ser Ile Arg Pro Val Ala Gly Tyr Leu Ser
225          230          235          240
Pro Arg Asp Phe Leu Ser Gly Leu Ala Phe Arg Val Phe His Cys Thr
          245          250          255
Gln Tyr Val Arg His Ser Ser Asp Pro Leu Tyr Thr Pro Glu Pro Asp
          260          265          270
Thr Cys His Glu Leu Leu Gly His Val Pro Leu Leu Ala Glu Pro Ser
          275          280          285

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Phe Ala Gln Phe Ser Gln Glu Ile Gly Leu Ala Ser Leu Gly Ala Ser  
 290 295 300  
 Glu Glu Thr Val Gln Lys Leu Ala Thr Cys Tyr Phe Phe Thr Val Glu  
 305 310 315 320  
 Phe Gly Leu Cys Lys Gln Asp Gly Gln Leu Arg Val Phe Gly Ala Gly  
 325 330 335  
 Leu Leu Ser Ser Ile Ser Glu Leu Lys His Ala Leu Ser Gly His Ala  
 340 345 350  
 Lys Val Lys Pro Phe Asp Pro Lys Ile Ala Cys Lys Gln Glu Cys Leu  
 355 360 365  
 Ile Thr Ser Phe Gln Asp Val Tyr Phe Val Ser Glu Ser Phe Glu Asp  
 370 375 380  
 Ala Lys Glu Lys Met Arg Glu Phe Ala Lys Thr Val Lys Arg Pro Phe  
 385 390 395 400  
 Gly Leu Lys Tyr Asn Pro Tyr Thr Gln Ser Val Gln Val Leu Arg Asp  
 405 410 415  
 Thr Lys Ser Ile Thr Ser Ala Met Asn Glu Leu Arg Tyr Asp Leu Asp  
 420 425 430  
 Val Ile Ser Asp Ala Leu Ala Arg Val Thr Arg Trp Pro Ser Val  
 435 440 445

&lt;210&gt; 2

&lt;211&gt; 488

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 2

Met Gln Pro Ala Met Met Met Phe Ser Ser Lys Tyr Trp Ala Arg Arg  
 1 5 10 15  
 Gly Leu Ser Leu Asp Ser Ala Val Pro Glu Asp His Gln Leu Leu Gly  
 20 25 30  
 Ser Leu Thr Gln Asn Lys Ala Ile Lys Ser Glu Asp Lys Lys Ser Gly  
 35 40 45  
 Lys Glu Pro Gly Lys Gly Asp Thr Thr Glu Ser Ser Lys Thr Ala Val  
 50 55 60  
 Val Phe Ser Leu Lys Asn Glu Val Gly Gly Leu Val Lys Ala Leu Arg  
 65 70 75 80  
 Leu Phe Gln Glu Lys His Val Asn Met Leu His Ile Glu Ser Arg Arg  
 85 90 95  
 Ser Arg Arg Arg Ser Ser Glu Val Glu Ile Phe Val Asp Cys Glu Cys  
 100 105 110  
 Gly Lys Thr Glu Phe Asn Glu Leu Ile Gln Leu Leu Lys Phe Gln Thr  
 115 120 125  
 Thr Ile Val Thr Leu Asn Pro Pro Glu Ser Ile Trp Thr Glu Glu Glu  
 130 135 140  
 Asp Leu Glu Asp Val Pro Trp Phe Pro Arg Lys Ile Ser Glu Leu Asp  
 145 150 155 160  
 Arg Cys Ser His Arg Val Leu Met Tyr Gly Thr Glu Leu Asp Ala Asp  
 165 170 175  
 His Pro Gly Phe Lys Asp Asn Val Tyr Arg Gln Arg Arg Lys Tyr Phe  
 180 185 190  
 Val Asp Val Ala Met Gly Tyr Lys Tyr Gly Gln Pro Ile Pro Arg Val  
 195 200 205  
 Glu Tyr Thr Glu Glu Glu Thr Lys Thr Trp Gly Val Val Phe Arg Glu  
 210 215 220  
 Leu Ser Lys Leu Tyr Pro Thr His Ala Cys Arg Glu Tyr Leu Lys Asn  
 225 230 235 240  
 Leu Pro Leu Leu Thr Lys Tyr Cys Gly Tyr Arg Glu Asp Asn Val Pro

Gln	Leu	Glu	Asp	Val	Ser	Met	Phe	Leu	Lys	Glu	Arg	Ser	Gly	Phe	Thr
			260					265					270		
Val	Arg	Pro	Val	Ala	Gly	Tyr	Leu	Ser	Pro	Arg	Asp	Phe	Leu	Ala	Gly
		275					280					285			
Leu	Ala	Tyr	Arg	Val	Phe	His	Cys	Thr	Gln	Tyr	Val	Arg	His	Gly	Ser
	290					295					300				
Asp	Pro	Leu	Tyr	Thr	Pro	Glu	Pro	Asp	Thr	Cys	His	Glu	Leu	Leu	Gly
305					310					315					320
His	Val	Pro	Leu	Leu	Ala	Asp	Pro	Lys	Phe	Ala	Gln	Phe	Ser	Gln	Glu
			325					330						335	
Ile	Gly	Leu	Ala	Ser	Leu	Gly	Ala	Ser	Asp	Glu	Asp	Val	Gln	Lys	Leu
			340					345					350		
Ala	Thr	Cys	Tyr	Phe	Phe	Thr	Ile	Glu	Phe	Gly	Leu	Cys	Lys	Gln	Glu
		355					360					365			
Gly	Gln	Leu	Arg	Ala	Tyr	Gly	Ala	Gly	Leu	Leu	Ser	Ser	Ile	Gly	Glu
	370					375					380				
Leu	Lys	His	Ala	Leu	Ser	Asp	Lys	Ala	Cys	Val	Lys	Ser	Phe	Asp	Pro
385					390					395					400
Lys	Thr	Thr	Cys	Leu	Gln	Glu	Cys	Leu	Ile	Thr	Thr	Phe	Gln	Asp	Ala
			405						410					415	
Tyr	Phe	Val	Ser	Asp	Ser	Phe	Glu	Glu	Ala	Lys	Glu	Lys	Met	Arg	Asp
			420					425					430		
Phe	Ala	Lys	Ser	Ile	Thr	Arg	Pro	Phe	Ser	Val	Tyr	Phe	Asn	Arg	Tyr
		435					440					445			
Thr	Gln	Ser	Ile	Glu	Ile	Leu	Lys	Asp	Thr	Arg	Ser	Ile	Glu	Asn	Val
	450					455					460				
Val	Gln	Asp	Leu	Arg	Ser	Asp	Leu	Asn	Thr	Val	Cys	Asp	Ala	Leu	Asn
465					470					475					480
Lys	Met	Asn	Gln	Tyr	Leu	Gly	Ile								
					485										

&lt;210&gt; 3

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; TPH2a riboprobe template

&lt;400&gt; 3

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gccatgcagc ccgcaatgat gatgttttcc agtaaatact gggccaggag agggttgtcc 60
ttggattctg ctgtgccaga agatcatcag ctacttggca gcttaacaca aaataaggct 120
atcaaaaagcg aggacaagaa aagcggcaaa gagcccggca aaggcgacac cacagagagc 180
agcaagacag cagttgtgtt ctccttgaag aatgaagtt 219

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&lt;210&gt; 4

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; TPH2b riboprobe

&lt;400&gt; 4

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gtgaaagcac ttagactatt ccaggaaaaa catgtcaaca tgcttcatat cgaatccagg 60
cgggtcccggc gaagaagttc tgaagtcgaa atcttcgtgg actgcgaatg tggcaaaacg 120
gaattcaatg agctcatcca gttgctgaaa tttcagacca ccattgtgac cctgaatccg 180
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 aaaagcgagg acaagaaaag cggcaaagag cccggcaaag gcgacaccac agagagcagc 180  
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 agttctaagt cgaaatcttc gtggactgcg aatgtggcaa aacggaattc aatgagctca 360  
 tccagttgct gaaatctcag accaccattg tgaccctgaa tccgcctgag agcatttgga 420  
 cggaggaaga agatctcgag gatgtgccgt ggttccctcg gaagatctct gagtttagaca 480  
 gatgctctca ccgagtcctc atgtacggca ccgagcttga tgccgaccat ccaggattta 540  
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 ggctatcggg aagacaacat cccgcaactg gaggatgtct ccaacttttt aaaagaacgc 180  
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 acacagagtg ttcaggttct cagagacacc aagagcataa ctagtgccat gaatgagttg 780  
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22

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